CLAIMS

What is claimed is:

1. A method of manufacturing a soundboard for a stringed musical instrument, said method comprising the steps of:

fashioning a soundboard from at least one piece of lumber; and

texturing at least one surface of the soundboard.

2. The method of claim 1, wherein the lumber selected is quarter sawn.

3. The method of claim 1, wherein said at least one piece of lumber has both earlywood and latewood grains, and said at least one surface is textured by forming a plurality of grooves in the earlywood growth portions thereof.

4. The method of claim 3, wherein each groove is superimposed on an earlywood grain.

5. The method of claim 3, wherein at least one of said grooves is of generally parabolic cross section.

6. The method of claim 3, wherein at least one of said grooves is of generally semi-circular cross section.

7. The method of claim 3, wherein at least one of said grooves is of generally V-shaped cross section.

8. The method of claim 1, which further comprises the step of coating the textured surface with at least one preservative coating.

9. The method of claim 8, wherein said preservative coating is selected from the group consisting of varnish, lacquer, shellac, polyurethane resin and polyester resin.

10. The method of claim 3, wherein each groove is formed with a stylus.

11. The method of claim 3, wherein each groove is formed with a rotating disk tool.

12. The method of claim 3, wherein each groove is formed by a shot peening process.

13. The method of claim 3, wherein each groove is formed by a particle blasting process.

14. The method of claim 13, wherein the particles used for the particle blasting process are selected from the group consisting of sand, plastic beads and dry ice particles.

15. The method of claim 3, wherein each groove is formed with an optically-guided and computer-controlled router having a bit with the desired cross section that has about the same diameter as an earlywood grain.

16. The method of claim 3, wherein each groove is formed with an optically-guided, computer-controlled scanning laser.

17. A method of enhancing the resonance of a quarter-sawn wood panel intended as a vibrating sound source, said method comprising the step of compacting the earlywood grain on at least one surface of the panel to create a series of generally parallel grooves in said at least one surface.

18. The method of claim 17, wherein each groove has a generally semi-circular cross section.

19. The method of claim 17, wherein each groove has a generally parabolic cross section.

20. The method of claim 17, wherein each groove has a generally V-shaped cross section.

21. The method of claim 17, which further comprises the step of coating said at least one surface with at least one preservative coating.

22. The method of claim 21, wherein said preservative coating is selected from the group consisting of varnish, lacquer, shellac, polyurethane resin and polyester resin.

23. The method of claim 17, wherein each groove is formed with a stylus.

24. The method of claim 17, wherein each groove is formed with a rotating disk tool.

25. The method of claim 17, wherein each groove is formed by a shot peening process.

26. The method of claim 17, wherein each groove is formed by a particle blasting process.

27. The method of claim 26, wherein the particles used for the particle blasting process are selected from the group consisting of sand, plastic beads and dry ice particles.

28. The method of claim 17, wherein each groove is formed with an optically-guided and computer-controlled router having a bit with the desired cross section that has about the same diameter as an earlywood grain.

29. The method of claim 17, wherein each groove is formed with an optically-guided, computer-controlled scanning laser.

30. A method of treating a wooden soundboard of a stringed musical instrument to enhance its resonance, said method comprising the step of texturing at least one surface of the soundboard.

31. The method of claim 30, wherein said at least one surface is textured by forming a plurality of grooves in the earlywood growth portions thereof.

32. The method of claim 30, wherein said at least one surface is textured with a random pattern irrespective of the location of earlywood and latewood grains.

33. The method of claim 30, wherein said at least one surface is textured with a repeating relief pattern.

34. The method of claim 31, wherein each groove is superimposed on an earlywood grain.

35. The method of claim 31, wherein at least one of said grooves has a cross-sectional profile chosen from the group consisting of generally parabolic, semi-circular, V-shaped, stepped-V-shaped and U-shaped.

36. The method of claim 31, wherein each groove is formed by a tool selected from the group consisting of styluses; rotating disk tools; optically-guided and computer-controlled lasers; and optically-guided and computer-controlled routers.

37. The method of claim 31, wherein each groove is formed by a particle bombardment process selected from the group of processes consisting of sand blasting, bead blasting, and sublimable particle blasting.

38. The method of claim 31, wherein each groove is formed by a shot peening process that compacts earlywood grain material on the surface of the soundboard.

39. A method for enhancing the resonance of a wood panel intended to function as a vibrating sound source, said method comprising the step texturing

at least one major surface of the panel by forming a plurality of grooves in the earlywood growth portions thereof.

40. The method of claim 39, wherein said grooves are formed by compacting earlywood grain.

41. The method of claim 39, wherein compaction of the earlywood grain increases the stiffness of the earlywood grain sections, thereby increasing the stiffness of the entire panel.

42. The method of claim 39, wherein compaction of the earlywood grain increases the surface area of the panel, said increased surface area being the resulting sum of generally planar uncompacted regions and the sidewalls and floors of the grooves in said at least one major surface.

43. The method of claim 39, which further comprises the step of shaping the the latewood growth grains into rounded, flattened or pointed ridges.

44. A resonant panel which acts as a sound generator by converting vibrational energy to sound waves, said resonant panel comprising at least one major surface which has been textured to increase its surface area and, thus, its energy conversion efficiency.

45. The resonant panel of claim 44, which is generally conically shaped, and functions as an electromagnetically-driven speaker cone.

46. The resonant panel of claim 45, wherein said at least one major surface of said conically-shaped resonant panel has been textured by forming a radial array of grooves, each of which emanates from a central portion thereof and extends to an outer peripheral portion thereof.

47. The resonant panel of claim 45, wherein said speaker diaphragm is molded as a single piece from a material selected from the group consisting of polymeric compounds and cellulose fiber.

48. The resonant panel of claim 44, which is generally laminar in shape, fabricated from wood panels on which grain is positioned generally orthogonal to its major surfaces.

49. The resonant panel of claim 48, wherein said textured surface is formed by grooves formed in earlywood grains, each groove generally spanning the distance between an adjacent pair of latewood grains.

50. The resonant panel of claim 48, wherein said textured surface is rolled or pressed into said at least one major surface with no regard to grain size or orientation.